ICR The Institute of Cancer Research

Scientific Computing Apprentice (Research Software Engineering)

Candidate Information

August 2025

The Institute of Cancer Research

About our organisation

We are one of the world's most influential cancer research institutes with an outstanding record of achievement dating back more than 100 years. We are world leaders in identifying cancer genes, discovering cancer drugs and developing precision radiotherapy. Together with our hospital partner The Royal Marsden, we are rated in the top four centres for cancer research and treatment worldwide. As well as being a world-class institute, we are a college of the University of London.

We came second in the league table of university research quality compiled from the Research Excellence Framework (REF 2021). We have charitable status and rely on support from partner organisations, charities, donors and the general public.

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We have more than 1000 staff and postgraduate students across three sites – in Chelsea and Sutton.

Digital Services

The Digital Services Directorate ensures that everyone at the ICR has access to the technology they need to do their jobs effectively including providing specialist IT support to the ICR's research community.

The Job Role

This master's degree level apprenticeship supports the full lifecycle of Data Science work-based projects in Research Software Engineering, .

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applying best practices in software engineering, data management and data science to produce reliable, reproducible, and efficient research outcomes.

Our mission is to make the discoveries that defeat cancer.

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Our values

The ICR has a highly skilled and committed workforce, with a wide variety of roles, each requiring different skills. But whether you work as a researcher, or work as part of our corporate team, your work and behaviour is underpinned by these six values. They are what bring us together as one team - as 'One ICR'.

Pursuing excellence

We aspire to excellence in everything we do and aim to be leaders in our field.

Acting with Integrity

We promote an open and honest environment that gives credit and acknowledges mistakes, so that our actions stand up to scrutiny.

Valuing all our people

We value the contribution of all our people, help them reach their full potential, and treat everyone with kindness and respect.

Working together

We collaborate with colleagues and partners to bring together different skills, resources and perspectives.

Leading innovation

We do things differently in ways that no one else has done before, and share the expertise and learning we gain.

Making a difference

We all play our part, doing a little bit more, a little bit better, to help improve the lives of people with cancer.

Our values set out how each of us at the ICR, works together to meet our mission – to make the discoveries that defeat cancer. *They summarise our desired behaviours, attitudes and culture – how we value one another and how we take pride in the work we do, to deliver impact for people with cancer and their loved ones."*

Professor Kristian Helin
Chief Executive

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Job description

Department / division:	Digital Services
Pay grade / staff group:	Professional Services Apprentice
Hours / duration:	Full Time (28 hours per week plus 7 hours dedicated to learning/studying time), Monday to Friday. Fixed Term Contract for 18 months.
Reports to:	Research Software Engineering Manager
Main purpose of the job:	Assist in developing, maintaining, and optimising software and computational tools to support research projects. Work alongside experienced architects, engineers and researchers to apply best practices in software engineering to produce reliable, reproducible, and efficient research outcomes.

Objectives

Assist in designing, developing, and maintaining software solutions to support and advance research activities.
Assist in collaborating with researchers to understand their needs and translate them into effective software solutions.
Learn and apply software engineering best practices.
Develop as a research-oriented technology professional through the simultaneous application of academic learning and workplace experience.
Participate in teaching and clinics for researchers to improve their data and software practices.

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Duties and Responsibilities

Design, develop, maintain, test, and deploy and document software applications and tools.
Troubleshoot and debug software issues.
Support researchers in installing and running software on the HPC cluster.
Stay up to date on relevant programming languages, software development methodologies, and research computing practices.
Assist with the development and maintenance of tools and procedures for effective data management
Help implement FAIR data principles in active research projects
Work closely with researchers to understand their needs and provide support in specific areas of research and data science.
Develop models and reproducible workflows and pipelines for data analysis.

General

All staff must ensure that they familiarise themselves with and adhere to any ICR policies that are relevant to their work and that all personal and sensitive personal data is treated with the utmost confidentiality and in line with the General Data Protection Regulations
Any other duties that are consistent with the nature and grade of the post that may be required.
To work in accordance with the ICR's Values.
To promote a safe, healthy and fair environment for people to work, where bullying and harassment will not be tolerated.
This job description is a reflection of the present position and is subject to review and alteration in detail and emphasis in the light of future changes or development.

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Person specification

Education and Knowledge

A Degree in a relevant STEM field or equivalent experience in a similar role.	Essential

SFIA Skills

The tables below list the essential SFIA skills, at the relevant level, needed for the position.

Category	Skill	Required Level
Development and implementation	Data science	3
	High-performance computing	3
	Programming/software development	3
	Software configuration	3
	Software design	3
	Systems and software life cycle engineering	3
	Data engineering	2
	Data management	2
	Data visualisation	2
	Database design	2
	Functional testing	2
	Machine learning	2
	Non-functional testing	2
	User experience analysis	2
	User experience design	2
	User experience evaluation	2
Delivery and operation	Application support	2
	Incident management	2
	Release management	2
	Change control	1
	Configuration management	1
People and skills	Learning delivery	2

	Learning design and development	2
Relationships and engagement	Customer service support	2

SFIA Supplementary documents

The table below lists the supplementary documents provided. These explain the SFIA framework for those unfamiliar with it, and provide a detailed breakdown of each skill listed above and its importance for the role and how it will be used.

Document	Function
SFIA 9 Summary Chart	Provides a summary chart of the SFIA professional skills and a summary of the generic attributes.
SFIA 9 The framework reference	Provides the full description of the SFIA levels of responsibility, the generic attributes that define the SFIA levels, the behavioural factors, knowledge statements and all the SFIA professional skills.
SFIA 9 skills and responsibilities spreadsheet	Provides the content of the SFIA levels of responsibility, the generic attributes and the professional skills.

These documents can be downloaded here:

SFIA 9 Summary Chart

SFIA 9 Skills and Responsibilities Spreadsheet

SFIA 8 Framework Reference

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Experience

Experience and familiarity with version control systems, especially Git.	Essential
Experience working in a collaborative environment with the ability to work effectively with others and communicate technical ideas.	Essential
Familiarity with the research process and an interest in software development and its application in a research context.	Essential
Practical experience with a programming language commonly used in data science, such as Python or R. This could be from academic coursework, personal projects, or an online course.	Essential
Demonstrated experience in breaking down complex problems and developing logical solutions using quantitative approaches.	Essential

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Benefits

We offer a fantastic working environment, great opportunities for career development and the chance to make a real difference to defeat cancer. We aim to recruit and develop the best – the most outstanding scientists and clinicians, and the most talented professional and administrative staff.

The annual leave entitlement for full time employees is 28 days per annum on joining. This will increase by a further day after 2 years' and 5 years' service. All staff receive an additional three days at Christmas.

Staff membership to the Universities Superannuation Scheme (USS) is available. The USS is a defined benefit scheme and provides a highly competitive pension scheme with robust benefits. The rate of contributions is determined by USS and details of the costs and benefits of this scheme can be found on their website. If staff are transferring from the NHS, they can opt to remain members of the NHS Pension Scheme.

We offer a range of family friendly benefits such as flexible working, a parents' group, and a maternity mentoring scheme. Other great benefits include interest free loans for discounted season tickets for travel and bicycle purchases, access to the NHS discounts website, a free and confidential Employee Assistance Programme which offers a range of well-being, financial and legal advice services, two staff restaurants, and access to a gym and sporting facilities at our Sutton site.

Further information

You may contact Recruitment for further information by emailing recruitment@icr.ac.uk. This job description is a reflection of the current position and is subject to review and alteration in detail and emphasis in the light of future changes or development.